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## Document Number 4

Entry 4 of 4

File: USPT

May 11, 1976

US-PAT-NO: 3956426

DOCUMENT-IDENTIFIER: US 3956426 A

TITLE: Process for preparing block copolymers containing alpha-methyl styrene

DATE-ISSUED: May 11, 1976

## INVENTOR-INFORMATION:

| NAME                   | CITY  | STATE | ZIP CODE | COUNTRY |
|------------------------|-------|-------|----------|---------|
| Schepers; Herman A. J. | Stein | N/A   | N/A      | NL      |

## ASSIGNEE INFORMATION:

| NAME             | CITY   | STATE | ZIP CODE | COUNTRY | TYPE CODE |
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APPL-NO: 5/ 503081

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US-CL-ISSUED: 260/879; 260/880B

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FIELD-OF-SEARCH: 260/88B, 260/879

## REF-CITED:

## U.S. PATENT DOCUMENTS

| PAT-NO         | ISSUE-DATE    | PATENTEE-NAME | US-CL    |
|----------------|---------------|---------------|----------|
| <u>3778490</u> | December 1973 | Asieh         | 260/880B |

ART-UNIT: 144

PRIMARY-EXAMINER: Hamrock; William F.

ATTY-AGENT-FIRM: Cushman, Darby &amp; Cushman

## ABSTRACT:

An improved process for preparing elastomeric block copolymers of the formula A-B-A, wherein A is a poly-alpha-methyl-styrene polymer block, and B is an elastomeric polymer block from a conjugated diene. Alpha-methyl-styrene is polymerized by means of a mono-functional anionic initiator and an activator with an initial monomer concentration in excess of 100 g of alpha-methyl styrene per liter of reaction mixture, at a temperature of between 0.degree. and 40.degree.C, the amount of said activator being present such that the molar ratio of activator/initiator ranges from about 0.1 and 35 for a polymerization time of no more than 120 minutes. Thereafter, a small amount of conjugated diene and/or

120 minutes. Thereafter, a small amount of conjugated diene and/or styrene is added to the reaction mixture. Subsequently, a conjugated diene is added to the mixture and polymerized. A bi-block copolymer consisting of a poly-alpha-methyl-styrene block and a poly (conjugated diene) block is formed. Formation of the A-B-A block copolymer occurs through addition of a linking agent to this block copolymer of alpha-methyl-styrene and conjugated diene.

13 Claims, 0 Drawing figures

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